

Work Order ID 91490

October-10-12 4:02:02 PM

91490

Page 1

Item ID: D4544-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Retainer, Center

Start Date: 10/10/2012 Start Qty: 15.00

15

Cust Item ID:

Required Date: 10/12/2012 Req'd Qty: 15.00

15

Customer:

Reference:

Approvals: Process Plan: MLJ

Date: 12-10-11 Tooling:

Date:

Run Start ***NR1***

QC:

Date: SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
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Draw Nbr	Revision Nbr
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D4544

B

115

0.00

115

Small Fab

Memo

0.00

Small Fab

FORM AS PER DWG USE DT9832
flat lenght 46.00"

16

FF
13-02-27

117

QC5- Inspect part completeness to step on W/O

0.00

117

QC

Memo

0.00

Quality Control

DAS
15
13227

16

120

Chemical Conversion Coat per QSI005 4.1

0.00

120

HandFinish

Memo

0.00

Hand Finishing

16 13-02-27

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <div style="display: flex; justify-content: space-between;"> <div> Skid-tube <input type="checkbox"/> Machining <input type="checkbox"/> Thermoforming <input type="checkbox"/> Large Fab <input type="checkbox"/> </div> <div> Crosstube <input type="checkbox"/> Small Fab <input type="checkbox"/> Finishing <input type="checkbox"/> Composite <input type="checkbox"/> </div> <div> Water Jet <input type="checkbox"/> Prod. Eng. Coord. <input type="checkbox"/> Rec/Store/Packaging <input type="checkbox"/> Supplier <input type="checkbox"/> </div> <div> Engineering <input type="checkbox"/> Quality <input type="checkbox"/> Other <input type="checkbox"/> </div> </div>					
Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector		
Doc/Data <input type="checkbox"/>											
Equip/Tooling <input type="checkbox"/>											
Operator <input type="checkbox"/>											
Material <input type="checkbox"/>											
Setup <input type="checkbox"/>											
Other <input type="checkbox"/>											
Process <input type="checkbox"/>											
Supplier <input type="checkbox"/>											
Training <input type="checkbox"/>											
Unapproved <input type="checkbox"/>											

FAULT CATEGORY									
Landing Gear			General						
<input type="checkbox"/> Bending	<input type="checkbox"/> Bend	<input type="checkbox"/> Grain	<input type="checkbox"/> Ovalized	<input type="checkbox"/> Pressure/Forced					
<input type="checkbox"/> Centre Not Concentric to O/S	<input type="checkbox"/> BOM/Route	<input type="checkbox"/> Hardware	<input type="checkbox"/> Over/Under tolerance	<input type="checkbox"/> Temperature/Cure					
<input type="checkbox"/> Cracks	<input type="checkbox"/> Broken/Damaged	<input type="checkbox"/> Inspection Incomplete	<input type="checkbox"/> Part Incorrect	<input type="checkbox"/> Weld					
<input type="checkbox"/> Crushed/Crimped.	<input type="checkbox"/> Burrs	<input type="checkbox"/> Instructions Incomplete/Unclear	<input type="checkbox"/> Part Lost/Missing	<input type="checkbox"/> Wrong Stock Pulled					
<input type="checkbox"/> Cuffs	<input type="checkbox"/> Contamination	<input type="checkbox"/> Maintenance	<input type="checkbox"/> Part Moved						
<input type="checkbox"/> Heat Treat	<input type="checkbox"/> Countersink	<input type="checkbox"/> Mislabeled	<input type="checkbox"/> Positioned Wrong						
<input type="checkbox"/> Inspection Strip in Tube	<input type="checkbox"/> Cut Too Short	<input type="checkbox"/> Misread	<input type="checkbox"/> Power Loss/Surge	<input type="checkbox"/> Other					
<input type="checkbox"/> Ripples in Bend	<input type="checkbox"/> Drill Holes	<input type="checkbox"/> Offset							
<input type="checkbox"/> Torque Waves in Extrusion	<input type="checkbox"/> Drawing	<input type="checkbox"/> Out of Calibration							
<input type="checkbox"/> Turning Sequence	<input type="checkbox"/> Finish	<input type="checkbox"/> Out of Sequence							
<input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Folio	<input type="checkbox"/> Outside Dimensions							

Work Order ID 91490

October-10-12 4:02:02 PM

91490

Page 2

Item ID: D4544-1

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Item Name: Retainer, Center

Stop ***NS2***

Start Date: 10/10/2012 Start Qty: 15.00

15

Cust Item ID:

Required Date: 10/12/2012 Req'd Qty: 15.00

15

Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	QC7-Inspect Chemical Conversion Coat	0.00							
130									
QC	Memo	0.00							
Quality Control									
140	Identify as per dwg & Stock Location: _____	0.00							
140									
Packaging	Memo	0.00							
Packaging									
150	QC21- Final Inspection - Work Order Release	0.00							
150									
QC	Memo	0.00							
Quality Control									

16

3208

4/3/3/4 (16)

13/3/4

MF
13-3-4

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width:25%;">Skid-tube <input type="checkbox"/></td> <td style="width:25%;">Crosstube <input type="checkbox"/></td> <td style="width:25%;">Water Jet <input type="checkbox"/></td> <td style="width:25%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>						Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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Training <input type="checkbox"/>																											
Unapproved <input type="checkbox"/>																											
FAULT CATEGORY																											
Landing Gear <input type="checkbox"/> Bending <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimped <input type="checkbox"/> Cuffs <input type="checkbox"/> Heat Treat <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Ripples in Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube			General <input type="checkbox"/> Bend <input type="checkbox"/> BOM/Route <input type="checkbox"/> Broken/Damaged <input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Countersink <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Drill Holes <input type="checkbox"/> Drawing <input type="checkbox"/> Finish <input type="checkbox"/> Folio			<input type="checkbox"/> Grain <input type="checkbox"/> Hardware <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Misread <input type="checkbox"/> Offset <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions			<input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Incorrect <input type="checkbox"/> Part Lost/Missing <input type="checkbox"/> Part Moved <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Power Loss/Surge <input type="checkbox"/> Pressure/Forced <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other																		

Picklist Print

October-10-12 4:02:06 PM

Page 1

Work Order ID: 91490

91490

Parent Item: D4544-1

D4544-1

Parent Item Name: Retainer, Center

Start Date: 10/10/2012

Required Date: 10/12/2012

Start Qty: 15.00

Required Qty: 15.00

Comments: IPP revA 12.01.17 new issue EC verified by:DD
REV:B 12.02.24 as per dwg reva DD verf:EC

IPP

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D4544-3		Manufactured	No				f	5,868.000		57.495			

D4544-3

Extrusion

**

FF 13-02-27

Location

Loc Qty

Loc Code

MAT07

5868

86171

5868

61.328

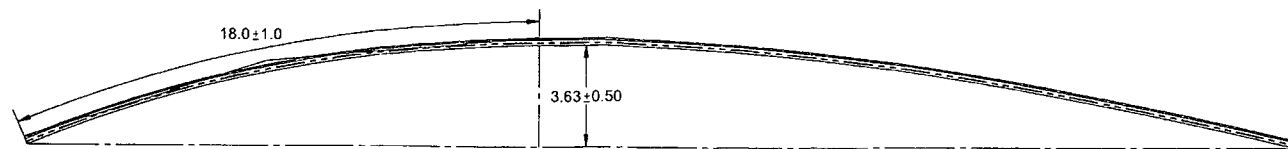
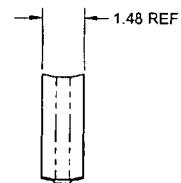
NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

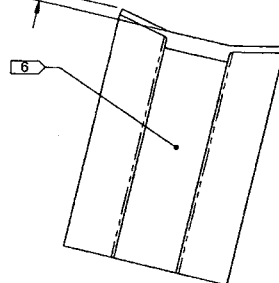
Work Order: _____ Part No. _____ NCR No. _____				DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>		AGAINST DEPARTMENT/PROCESS <table style="width:100%; border: none;"> <tr> <td style="width: 25%;">Skid-tube <input type="checkbox"/></td> <td style="width: 25%;">Crosstube <input type="checkbox"/></td> <td style="width: 25%;">Water Jet <input type="checkbox"/></td> <td style="width: 25%;">Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> </table>						Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Water Jet <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Other <input type="checkbox"/>	Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Supplier <input type="checkbox"/>	
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D4544-1 RETAINER, CENTER

FORM TO 0.10 TYP
(D4544-1F ONLY)

6



VIEW A-A
SCALE 4X
CROPPED VIEW

SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. **91490 MJS**

12-10-11

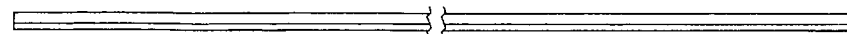
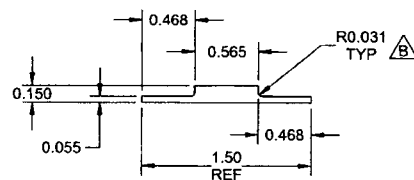
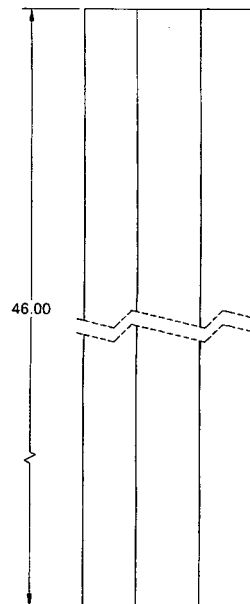
RELEASED
2012-05-07

NOTES:

- 1) MATERIAL: MAKE FROM D4544-1F OR D4544-3-460
FLAT LENGTH = 46.00"
- 2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: N/A
- 6) IDENTIFICATION: IDENTIFY WITH DART P/N "D4544-1" AND B/N PER DART QSI 044 6.1
- 7) WEIGHT: 0.61 lbs

B	ADD -1F (WAS -1); ADD -3; -1 NOW BENT AND FORMED, R0.031 WAS R0.015 (B0-2)	CP	12.04.20
A	NEW ISSUE	CP	12.01.09
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>AS</i>		
DRAWN	<i>AS</i>		
CHECKED	<i>AS</i>		
MFG. APPR.	<i>AS</i>		
APPROVED	<i>AS</i>		
DE APPR.	<i>AS</i>		
DATE	12.04.20		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D4544 TITLE RETAINER, CENTER REV. B SHEET 1 OF 3 SCALE NTS <small>COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESSED CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR FOR ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>			

91490



D4544-1F RETAINER, CENTER

RELEASED
2012-05-03

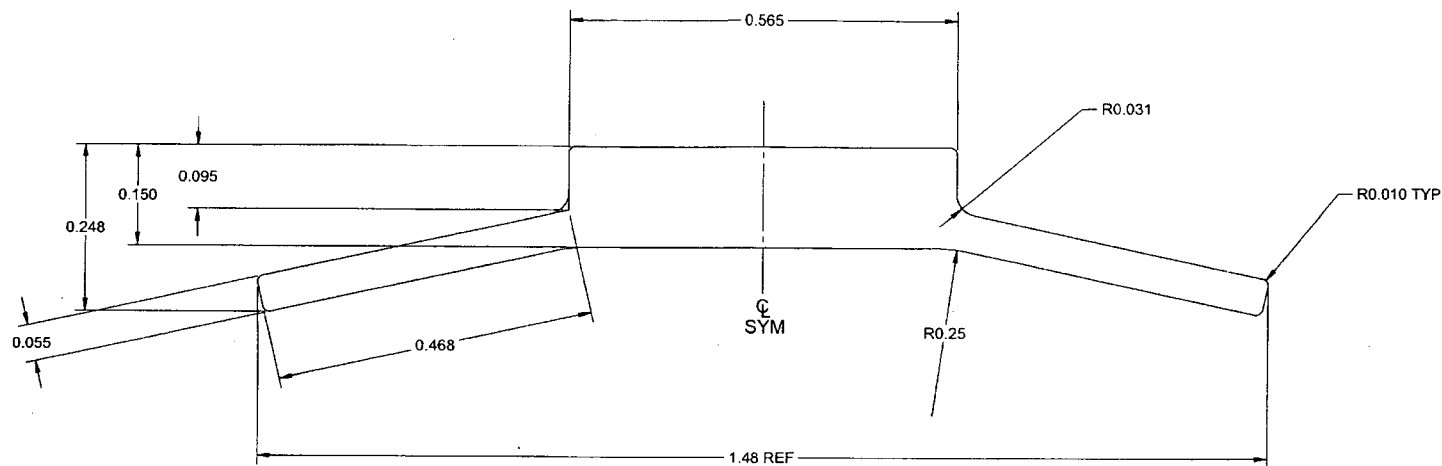
NOTES:

- 1) MATERIAL: 6061-T6 ALUMINUM SHEET OR BAR
 QQ-A-225/8 OR AMS-QQ-A-225/8 (OR AMS 4117/4128/4115/4116)
 OR QQ-A-200/8 OR AMS-QQ-A-200/8 (OR AMS 4160)
 OR QQ-A-250/11 OR AMS-QQ-A-250/11 (OR AMS 4025/4027)
 OR ASTM B211 OR ASTM B221 OR ASTM B209
 REF DART SPEC. M6061T6S OR M6061T6B
- 2) FINISH: NONE
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.61 lbs

DESIGN	92	DART AEROSPACE LTD	
DRAWN	SS	HAWKESBURY, ONTARIO, CANADA	
CHECKED	AS	DRAWING NO. D4544	REV. B
MFG. APPR.	AS	SHEET 2 OF 3	
APPROVED	AS	TITLE	SCALE
DE APPR.	AS	RETAINER, CENTER	NTS
DATE	12.04.20	<small>COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	

SPECIFICATION CONTROL DRAWING

91490



D4544-3-XXX EXTRUSION

2012-05-07
2012-05-07

NOTES:

1) D4544-3-XXX EXTRUSION

LENGTH

WHERE 'XXX' IS LENGTH IN TENTHS OF AN INCH
EG. 46" LONG EXTRUSION = D4544-3-460

- 2) MATERIAL: 6061-T6 ALUMINUM EXTRUSION PER QQ-A-200/8 OR AMS-QQ-A-200/8 OR ASTM B221
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 0.0137 lb/in
- 8) NO TOOLING ID MARKS

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED		DRAWING NO. D4544	REV. B
MFG. APPR.			SHEET 3 OF 3
APPROVED		TITLE	SCALE
DE APPR.		RETAINER, CENTER	NTS
DATE	12.04.20	<small>COPYRIGHT © 2012 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL, AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.</small>	